Getting The Most From Your Continuous Classification Data

NATMEC 2000

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WisDOT Classification Resources

- 43 continuous classification sites
- Sensors and configuration
- Equipment used

How Classification Occurs

- Speed from loops
  - Known separation distance
  - Difference in activation times
- Piezos detect and count axles
- Time between detections gives axle spacing
- Examine classification algorithm
- Classify vehicle

Site Selection

- Straight and level
- Smooth pavement
- Avoid cracks
- Freeflowing traffic at 25 mph or above

Installation

- Follow manufacturers instructions
- Use radar gun to calibrate speed
- Recalibrate annually or when counter replaced
- Keep record of calibration values at site

Classification Algorithm

- FHWA defines 13 classes, does your algorithm accurately reflect them?
- Dump trucks and milk trucks
- Spread tandems
- 1 axle vehicles

Hardware Reliability

- Does sensor accurately detect
- Does counter accurately record detections
- High piezo voltage

Data Edit Checking

- Warning message at 6% unclassified
- Error message at 10% unclassified
- Review printouts weekly

Knowledge of Local Conditions

- Special Events
- Construction
- Key to knowing if odd data is good or bad
- Check with local staff

Troubleshooting Problems

- When data problem detected notify field service staff
- Replace sensors as needed

The Results

The Good -

- 25 stations (76 lanes) with data
- Average 1.64% unclassified
- Range from 0% to 30.29% unclassified
- 8 lanes with >3% unclassified
- 4 lanes with >6% unclassified

The Results

When one station (4 lanes) omitted -

- 24 stations (72 lanes) with data
- Average 0.84% unclassified
- Range from 0% to 10.19% unclassified
- 5 lanes with >3% unclassified
- 1 lane with >6% unclassified

The Results

The Bad -

- 14 stations (54 lanes) missing data
- 6 stations (20 lanes) class problems
- 4 stations (18 lanes) telephone problems
- 2 stations (8 lanes) sensor problems
- 2 stations (8 lanes) unspecified problems

The Results

- *This lost data emphasizes the need to properly install and promptly maintain and repair stations*

The End